

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 10/050,716

REMARKS

Upon entry of this Amendment, claims 30-59 are pending in the application. Claim 30 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Dixon (USP 5,218,610). For the reasons set forth below, Applicants respectfully traverse the rejection of claim 30 and request favorable disposition of the application. Claims 31-59 have been added to provide additional claim scope.

Claim Rejection under 35 U.S.C. § 102

Summary

Independent claim 30 defines a new and nonobvious method of stabilizing a short-pulse fiber laser. Included among the method elements is isolating the fiber laser from an external environment, including wrapping the fiber laser onto a fiber spool. At least this feature of the claimed method is neither taught nor suggested by Dixon and, therefore, the rejection of claim 30 should be withdrawn.

The Prior Art Reference

Dixon is directed to a device and method for reducing complexity, size and cost of an electronically-tuned, optically-pumped, transition-metal based, solid-state laser. To achieve his objective, Dixon suggests two embodiments of a tunable laser system in which the specific configuration of the system apparently affords a smaller, less complex and cheaper system than was previously available. Dixon does not, however, teach or suggest isolating a fiber laser from the external environment, as recited by the claims.

Argument

The Examiner asserts that “Dixon discloses the feature of isolating a fiber laser from an external environment by wrapping the fiber onto a spool” at column 9, lines 10-23. Applicant disagrees with the Examiner’s assessment of the cited passage.

In particular, at column 9, lines 9-23, Dixon discloses;

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An end-pumped fiber of lasant material can also be used. In particular, optical fibers, which are doped with Thulium, for example, are suggested. The length of such a fiber is easily adjusted to result in absorption of essentially all of the optical pumping radiation. If a very long fiber is required, it can be coiled, on a spool for example, in order to minimize the overall length of the laser apparatus.

From reading the entire disclosure of Dixon it is evident that fiber-carrier systems are not the main thrust of the invention. In fact, fibers are not even mentioned until the last paragraph of the disclosure in which various "lasant materials" that might be used in conjunction with the invention are disclosed. Accordingly, it is not surprising that nowhere in Dixon, and in particular nowhere in the passage cited by the Examiner, is environmental isolation of a fiber laser even contemplated. It is clear that the reference to coiling a fiber on a spool is provided only as a means to provide for adequate lasant material length, e.g., to provide for absorption of essentially all of the optical pumping radiation, while at the same time, minimizing the overall dimensions of the system, which is at least one of the main objectives of the invention disclosed. (Col. 1, lines 41-43; Col. 2, lines 36-40).

In comparison, the present application discloses isolating the fiber laser from external environmental conditions in order to, for example, minimize timing jitter caused by fluctuations in those environmental conditions. One example of how the claimed invention performs the claimed isolation is by placing the fiber laser in an enclosure that is acoustically damped and temperature controlled. (See, for example, par. 84).

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Dixon does not disclose isolating the fiber laser from the external environment, as recited in the claim. Accordingly, Dixon does not disclose each and every claimed feature and the rejection under 35 U.S.C. §102 should be withdrawn.

Patentability of New Claims

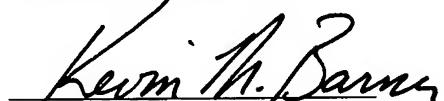
For additional claim coverage merited by the scope of the invention, Applicant has added new claims 31-59. Applicant submits that the prior art does not disclose, teach, or suggest the combination of features contained therein.

Conclusion

In view of the foregoing remarks, the application is believed to be in form for immediate allowance with claims 30-53, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to **contact the undersigned** at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Kevin M. Barner
Registration No. 46,075

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE



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PATENT TRADEMARK OFFICE

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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

30. (Amended) A method of stabilizing a short-pulse fiber laser, comprising:
isolating said fiber laser from an external environment [by];
wrapping said fiber laser onto a fiber spool; and
operating the fiber laser while said fiber laser remains wrapped on said fiber spool.

Claims 31-59 are added as new claims.